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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/603,782	06/26/2003	Etsuo Oogami	040302-0327	4066
22428 7590 01/31/2007 FOLEY AND LARDNER LLP SUITE 500 3000 K STREET NW WASHINGTON, DC 20007			EXAMINER HODGE, ROBERT W	
			ART UNIT 1745	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		01/31/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.		Applicant(s)	
	10/603,782		OOGAMI, ETSUO	
	Examiner		Art Unit	
	Robert Hodge		1745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 November 2006.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

Applicant's arguments filed 11/15/06 have been fully considered but they are not persuasive. In a personal interview on 11/1/06 applicants clarified their invention to the Examiner explaining that their invention is for motor vehicle applications and the Examiner explained that if applicants amended their claims to positively recite structure that would read over the prior art then the reference would no longer be used. However applicants have only amended the claims to recite intended use of the instant invention in the preamble of the claims and the newly added claims revert back to the preamble structure of the originally filed claims. Therefore as long as the prior art is capable of performing the intended use that applicants now recite or if the prior art is capable of being scaled up to meet the intended use requirement it will read on the claims as so recited. Applicants state that the Hanafusa reference would not be suitable for use in a vehicle. First and foremost there is no recitation as to what type of vehicle the instant invention will be used in. Therefore a remote controlled battery operated toy car can read on "a motor vehicle" because all of the structure for the vehicle is present. With respect to the intended use of the instant invention, Hanafusa specifically teaches the scalability of their invention, from a portable telephone to a note book PC. Applicants are well aware that the power usage of a portable telephone versus a note book PC are quite different with a note book PC requiring at least 100 times more power than a portable telephone, therefore since Hanafusa is already concerned with scaling up their battery pack, it is well within a skilled artisans level of skill in the art to scale the battery

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pack of Hanafusa up to even larger scales for its intended use. It is also noted that through the progression of battery technology it is very common for features that showed success in one type of application to be applied to another application whether larger or smaller and that said feature would be scaled accordingly to function properly with the new application.

The Examiner acknowledges that claim 1 has been canceled and that claim 6 now depends on claim 2.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 11, 14 and 19 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for "Moreover, Module Battery 1 of this embodiment is suitable as driving source of vehicles since Battery 10 is a lithium ion battery with high energy density and high power" does not reasonably provide enablement for "sufficient energy density and power to serve as a driving source for a vehicle". The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with these claims. There is no disclosure or working examples in applicant's specification that describes what a "sufficient energy density and power" would be in order for the module battery "to serve as a driving source for a vehicle".

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The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 11, 14 and 19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

There is no disclosure or working examples in applicant's specification that describes what a "sufficient energy density and power" would be in order for the module battery "to serve as a driving source for a vehicle". Nor is there any disclosure as to what type of motor vehicle the module battery will be used in therefore one having ordinary skill in the art cannot determine how to properly size the module battery of the instant application. Therefore as long as the prior art teaches that the scaling of a battery pack or a skilled artisan would find it reasonable to scale the battery pack of the prior art it will read on the claims as so recited.

Claim 18 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 18 recites "wherein the space provided between adjacent battery packs gradually increases from a middle portion of the battery packs to both ends of the battery packs" is indefinite. As described and shown in the disclosure and figures only the walls of the individual battery packs taper from the center of the pack to end of the pack. As recited applicants are stating that the battery packs themselves taper from the center pack to the end packs, therefore the end pack would actually be smaller than the

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center pack. For purposes of examining claim 18 will be read in light of what the specification actually describes and that is that the individual battery packs have the tapering affect, not the entire module battery.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 2-4, 6, 9-12 and 17-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 1160895 hereinafter Hanafusa in view of JP 2001-256934 hereinafter Osaka, JP-2001-114157 hereinafter Takahashi and U.S. 5,879,831 hereinafter Ovshinsky.

Hanafusa teaches a lithium ion module battery comprising a battery pack comprising at least one battery cell having a power generating element sealed in a film and a pair of electrode tabs connected to the power generating element and a packing case that provides an opening for the electrode tabs, said case is comprised of case halves that sandwich the battery cell. Hanafusa also teaches a space upstream wider than the other region of space due to the shape of the battery pack being thick in the middle and narrow on the ends (i.e. claim 18 of the instant application having a taper affect from the center to the ends). Hanafusa further teaches that the module battery can be properly scaled for use in portable telephones and note book PCs (abstract, paragraphs [0002]-[0007], [0014]-[0022], [0029]-[0044], [0050]-[0055], and [0061]-[0084]).

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Hanafusa does not teach the use of a packing case containing a plurality of the battery modules or any properties of the packing case.

Osaka teaches a packing case for accommodating a plurality of stacked battery packs that covers all of the openings of the packing cases, with space provided between the battery packs and a flange provided to align the packing cases that also provides the space between the battery packs (abstract).

Takahashi teaches a battery assembly that provides a waterproof structure for the battery box, which would also be air tight (abstract).

Ovshinsky teaches a battery pack that includes a plurality of packing cases provided therein that are spaced a part from each other to allow fluid to flow there through (abstract, column 3, line 24 – column 5, line 47, column 7, lines 36-60, column 9, line 21 – column 10, line 51, column 12, lines 1-3, column 13, line 46 – column 19, line 25). Ovshinsky also teaches that it is well known for batteries to power motor vehicles (column 1, lines 21-25).

At the time of the invention it would have been obvious to a person having ordinary skill in the art to include the teachings of the Osaka, Takahashi and Ovshinsky references in the Hanafusa reference in order to provide a superior battery pack that would properly position all of the battery packs properly in a the casing and provide proper spacing to allow for cooling of the battery packs, which would in turn extend the life of the battery cells by keeping them at their optimal operating temperature. At the time of the invention it would have also been obvious to one having ordinary skill in the art to properly scale the battery pack of Hanafusa as taught in Hanafusa and Ovshinsky

for its intended use in order to provide a module battery that will meet the required power output for its use such as in a motor vehicle as taught by Ovshinsky.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hanafusa in view of Osaka, Takahashi and Ovshinsky as applied to claim 3 above, and further in view of U.S. 6,821,671 hereinafter Hinton.

Hanafusa as modified by Osaka, Takahashi and Ovshinsky does not teach a cooling fin in the space.

Hinton teaches a battery pack for cooling battery cells that includes a cooling fin provided in hollow spaces (figure 4, column 4, lines 30-38).

At the time of the invention it would have been obvious to include the teaching of the Hinton reference in the Hanafusa reference in order to provide another well-known means for maintaining the battery cells at their optimal operating temperature.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hanafusa in view of Osaka, Takahashi and Ovshinsky as applied to claim 6 above, and further in view of U.S. 5,688,615 hereinafter Mrotek.

Hanafusa as modified by Osaka, Takahashi and Ovshinsky does not teach a locate pin for aligning the battery cell.

Mrotek teaches a battery cell provided within a housing that utilizes an alignment pin, to line up the battery cell within the housing (figure 6, column 5, line 66 – column 6, line 37).

At the time of the invention it would have been obvious to include an alignment pin in Hanafusa as taught by Mrotek in order to provide a simplified means of

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assembling the battery cell within the housing thereby making sure everything is perfectly aligned before completing the assembly process.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hanafusa in view of Osaka, Takahashi and Ovshinsky as applied to claim 6 above, and further in view of U.S. 6,517,966 hereinafter Marukawa.

Hanafusa as modified by Osaka, Takahashi and Ovshinsky does not teach that the halves of the case are symmetrical.

Marukawa teaches a battery pack case that is symmetrical with protrusion used for lining up the symmetrical halves (column 2, line 55 – column 3, line 3).

At the time of the invention it would have been obvious to include symmetrical case halves in Hanafusa as taught by Marukawa in order to provide a simplified means of assembling the housing thereby making sure everything is perfectly aligned before completing the assembly process.

Claims 13 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hanafusa in view of Osaka.

Hanafusa as discussed above is incorporated herein.

Hanafusa does not teach the use of a packing case containing a plurality of the battery modules.

Osaka as discussed above is incorporated herein.

At the time of the invention it would have been obvious to one having ordinary skill in the art to include a plurality of battery packs in Hanafusa as taught by Osaka in

order to provide a module battery that is properly sized for the power output requirements of its intended use.

Claims 14 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hanafusa in view of Osaka as applied to claim 13 above, and further in view of Ovshinsky.

Hanafusa as modified by Osaka as discussed above is incorporated herein.

Hanafusa as modified by Osaka does not teach that the module battery is in a motor vehicle.

Ovshinsky as discussed above is incorporated herein.

At the time of the invention it would have been obvious to one having ordinary skill in the art to properly scale the battery pack of Hanafusa as taught in Hanafusa and Ovshinsky for its intended use in order to provide a module battery that will meet the required power output for its use such as in a motor vehicle as taught by Ovshinsky.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not

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mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert Hodge whose telephone number is (571) 272-2097. The examiner can normally be reached on 8:00am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

RWH


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